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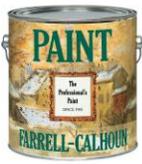
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INTERIOR INSTITUTIONAL REPAINT GUIDELINES

Institutional settings such as schools, government buildings, hospitals, apartment buildings, prisons, hotels, etc., can be very problematic. Unlike new construction, there are conditions on these projects that are unknown which need to be investigated prior to specifying and painting. Many times, building owners, owner's reps and architects do not know what existing paint systems are on the jobsite, how to determine what may be on the wall, what surface preparation is needed and what system should be used. To complicate the situation, the painting contractor has normally bid the job very low, does not have adequate time to test the substrates and has a limited time to complete the job. From a paint company's perspective, we need to do our best to make sure the job is completed correctly on the front end. Therefore, we need to walk the entire institution, identify the various substrates and educate our customers on what is needed to do the best job.

These are the biggest reasons for paint failure in these settings.

- 1) No surface preparation on enameled surfaces.
 - a) All surfaces need to be identified prior to painting. Many institutions have multiple types of paints in different areas or rooms. Maintenance crews or occupants often use different paints when repainting.
 - b) All identified surfaces need to be checked for proper adhesion prior to painting. Check the adhesion of the specified system on each different existing painted surface prior to painting. An adhesion test should be done after the surface is prepared properly (see below). We recommend a crosshatch tape adhesion test.
 - b) All surfaces need to be cleaned prior to painting. There are some surfaces such as most walls over 7 feet high which may be dusted or swept. These walls are not handled and are not in an area such as a kitchen where grease or chemical vapors deposit on walls.
 - c) All surfaces that are normally handled must be degreased prior to painting. The worst failures are on the side and end of a door that is handled and on walls that the children can reach. Surfaces that are handled should be considered dirty with contaminants. Water-based paints do not stick over oily, greasy, chalky or dirty surfaces. Oil-based paints are much better at sticking to marginal surfaces, but not many institutions want to use solvent based paints due to odor and VOC content. For latex topcoats, always use a commercial degreaser or Denatured alcohol and change rags frequently during cleaning. For solvent based topcoats, hydrocarbon solvents may be used.
 - d) All high sheen surfaces need to be sanded prior to painting with a 150 to 220 grit. Coatings do not like to adhere to smooth surfaces. Scuff sanding roughs up the old coat and allows the new paint to bite into the old coating. This is especially important on doors and trim that get handled or impacted frequently such as a classroom door, apartment door or handrail.
 - e) Check for wax prior to doing any varnished surfaces such as furniture, kitchen cabinets and floors. Check for wax by using a one to one blend of ammonia and water. Apply the solution with a rag, let it stand several minutes and, if a wax is present, it will get sticky. If present, remove the wax by either using this solution or with a quality commercial wax remover.



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- 2) Wrong Product Being Specified.
 - a) Painting water-based enamels over oil-based enamels is the most common painting problem concerning institutional repaints. If an oil-based enamel is present and a waterborne enamel is specified, specifying a solvent-based oil-primer is the best way to ensure adequate adhesion of the topcoat. Surface prep is always needed, but a solvent-borne oil-based primer will stick to an old oil-based enamel better than any other coating. If a solvent-borne product cannot be used, the substrate should be degreased, sanded, wiped clean, and primed before the waterborne topcoat is applied.
 - b) Do not specify eggshell or flat finishes in high traffic areas which will show significant wear quickly such as hallways. Use satin or semi-gloss finishes for a more durable finish. Flat and Eggshell finishes are usually specified since they show less flaws in application, have a low-luster appearance and are cheaper in cost. Most school walls are made of block which is very forgiving to paint and should always be painted with a satin to gloss sheen.
 - c) Do not specify high sheen finishes without a level 5 finish in hallways or in areas where lighting and window placement is problematic. Higher sheen finishes on sheetrock require a level five finish on drywall unless sufficient breaks are designed in the wall system. Lighting and window placement will highlight imperfections on painted sheetrock at low angles. Designing breaks in the wall system, hanging pictures, or adding furniture and plants will help to hide any flaws. These “fixes” all work by altering the light pattern. Level 5 finishes are more expensive to apply, can create a weak drywall mud layer, and need to be specified at the correct times for budgetary purposes.
 - d) Specify 100% Acrylic paints, Urethane-Acrylic or Acrylic-Epoxy when repainting waterborne enamels on walls, doors and trim. 100% Acrylic paints, Urethane-Acrylic or Acrylic-Epoxy based paints have superior adhesion, oil resistance and wear characteristics when compared to Vinyl-Acrylic or Vinyl-Acetate Ethylene based finishes.
- 3) The bid is being awarded solely on price.
 - a) Re-painting is generally expensive and more problematic than new construction. The identification of existing coatings should be done at the jobsite before a job can be properly specified. Many times, there are multiple types of coatings in an institution and the painter needs to be qualified to identify different types of paints and to know how to prepare them. Therefore, adequate time and money should be allocated to cleaning, surface preparation, priming and painting.
 - b) The painter for the job should be qualified to perform the job with the correct insurance, bonding, manpower and experience. Failures often occur when these credentials are not met.



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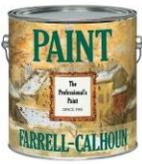
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Common Institutional Surfaces and Best Recommendations

- 1) Existing Alkyd Enamel for Trim and handrails (when changing to a latex topcoat)
 - a. De-grease substrate with a commercial degreaser or Denatured alcohol
 - b. Sand substrate with a 150 to 220 grit pad and wipe clean
 - c. Primer – Solventborne Alkyd Primer (if solvents cannot be used, see 3c)
 - i. 599 Alkyd Enamel Undercoater
 - ii. 597 QD Alkyd Stain-Killer
 - d. Topcoat – Interior 100% Acrylic Semi-Gloss to Gloss
 - i. 3000 Interior 100% Acrylic High Gloss
 - ii. 3300 Interior 100% Acrylic Semi-Gloss
 - iii. 1260 Interior Pre-Cat Acrylic Semi-Gloss Epoxy
 - iv. 600 Interior 100% Acrylic Semi-Gloss

- 2) Existing Alkyd Enamel for Trim, Handrails or CMU Walls (repainting with alkyd)
 - a. De-grease substrate with a commercial degreaser or Denatured alcohol
 - b. Sand substrate with a 150 to 220 grit pad and wipe clean
 - c. Primer – Solventborne Alkyd Primer (if necessary -check adhesion)
 - i. 599 Alkyd Enamel Undercoater
 - ii. 597 QD Alkyd Stain-Killer
 - d. Topcoat – Interior 100% Acrylic Semi-Gloss to Gloss
 - i. 5200 Interior Satin Alkyd Enamel
 - ii. 500 Interior Semi-gloss Enamel
 - iii. 580 Interior Gloss Enamel
 - iv. 800 Gloss Industrial Enamel

- 3) Existing Acrylic Waterborne Enamel for trim and handrails
 - a. De-grease substrate with a commercial degreaser or Denatured alcohol
 - b. Sand substrate with a 150 to 220 grit pad and wipe clean
 - c. Primer – Waterborne 100 % Acrylic (use primer if topcoat fails adhesion test)
 - i. 699 100 % Acrylic Undercoater
 - ii. 697 100 % Acrylic Bonding Primer
 - d. Topcoat – Interior Waterborne 100% Acrylic Semi-Gloss to Gloss
 - i. 3000 Interior 100% Acrylic High Gloss
 - ii. 3300 Interior 100% Acrylic Semi-Gloss
 - iii. 1260 Interior Pre-Cat Acrylic Semi-Gloss Epoxy
 - iv. 600 Interior 100% Acrylic Semi-Gloss



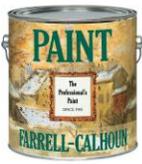
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- 4) Existing Alkyd Enamel on CMU Walls (when changing to a latex topcoat)
 - a. De-grease substrate with a commercial degreaser or Denatured alcohol
 - b. Sand substrate with a 150 to 220 grit pad and wipe clean
 - c. Primer – Solventborne Alkyd Primer (normally 7 ft up)
 - i. 599 Alkyd Enamel Undercoater
 - ii. 597 QD Alkyd Stain-Killer
 - d. Topcoat -Interior Waterborne Satin to Gloss
 - i. 3000 Interior 100% Acrylic High Gloss
 - ii. 3300 Ultra Low VOC Interior 100% Acrylic Semi-Gloss
 - iii. 600 Interior 100% Acrylic Semi-Gloss
 - iv. 680 Interior V/AC Semi-Gloss
 - v. 670 Interior V/AC Satin

- 5) Existing Waterborne Enamels on CMU Walls
 - a. De-grease substrate
 - b. Sand substrate and wipe clean (sand if topcoat/primer fails adhesion test)
 - c. Primer – Waterborne 100 % Acrylic (use primer if topcoat fails adhesion test)
 - i. 699 100 % Acrylic Undercoater
 - ii. 697 100 % Acrylic Bonding Primer
 - d. Topcoat -Quality Interior Waterborne Satin to Gloss
 - i. 3000 Interior 100% Acrylic High Gloss
 - ii. 3300 Ultra Low VOC Interior 100% Acrylic Semi-Gloss
 - iii. 600 Interior 100% Acrylic Semi-Gloss
 - iv. 680 Interior V/AC Semi-Gloss
 - v. 670 Interior V/AC Satin

- 6) Existing Waterborne Enamels on Sheetrock Walls for High Traffic Areas
 - a. De-grease substrate
 - b. Sand substrate and wipe clean (sand if topcoat/primer fails adhesion test)
 - c. Primer – Waterborne 100 % Acrylic (use primer if topcoat fails adhesion test)
 - i. 699 100 % Acrylic Undercoater
 - ii. 697 100 % Acrylic Bonding Primer
 - d. Topcoat -Quality Interior Waterborne Eggshell to Gloss
 - i. 3000 Interior 100% Acrylic High Gloss
 - ii. 3300 Ultra Low VOC Interior 100% Acrylic Semi-Gloss
 - iii. 1260 line Interior Pre-Cat Acrylic Semi-Gloss Epoxy
 - iv. 600 Interior 100% Acrylic Semi-Gloss
 - v. 680Interior V/AC Semi-Gloss
 - vi. 670 Interior V/AC Satin
 - vii. 1270 line Interior Pre-Cat Acrylic Eggshell Epoxy
 - viii. 3950 Interior 100% Acrylic Eggshell

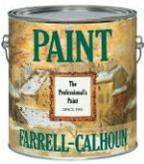


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- 7) Existing Waterborne Enamels on Sheetrock Walls for Normal Use (Note: Sanding and Priming is not normally needed on this substrate if the substrate is cleaned properly. School walls and similar institutional settings have walls that are very hard to clean properly.)
 - a. De-grease substrate if necessary
 - b. Sand substrate and wipe clean (sand if topcoat/primer fails adhesion test)
 - c. Primer – Waterborne 100 % Acrylic (use primer if topcoat fails adhesion test)
 - i. 699 100 % Acrylic Undercoater
 - ii. 697 100 % Acrylic Bonding Primer
 - d. Topcoat -Quality Interior Waterborne Flat to Gloss
 - i. 3000 Interior 100% Acrylic High Gloss
 - ii. 3300 Ultra Low VOC Interior 100% Acrylic Semi-Gloss
 - iii. 600 Interior 100% Acrylic Semi-Gloss
 - iv. 680 Interior V/AC Semi-Gloss
 - v. 670 Interior V/AC Satin
 - vi. 3950 Interior 100% Acrylic Eggshell
 - vii. 370 Interior V/AC Eggshell
 - viii. 300 Interior V/AC Flat

- 8) Existing Waterborne Eggshell or Flats on Sheetrock Walls for Normal Use (Note: Increasing sheen on these walls may expose surface imperfections. Sanding and Priming is not normally needed on this substrate unless imperfections are present that need to be corrected.)
 - a. De-grease substrate if necessary
 - b. Primer – Waterborne
 - i. 699 100 % Acrylic Undercoater (use primer if topcoat fails adhesion test)
 - ii. 697 100 % Acrylic Bonding Primer (use primer if topcoat fails adhesion test)
 - iii. 380 Perfik-Seal Primer/Sealer
 - iv. 475 Perfik-Kote High Build Primer Sealer
 - v. 479 Easy Primer High Build Sheetrock Primer
 - c. Topcoat -Quality Interior Waterborne Flat to Gloss
 - i. 3000 Interior 100% Acrylic High Gloss
 - ii. 3300 Ultra Low VOC Interior 100% Acrylic Semi-Gloss
 - iii. 600 Interior 100% Acrylic Semi-Gloss
 - iv. 680 Interior V/AC Semi-Gloss
 - v. 670 Interior V/AC Satin
 - vi. 3950 Interior 100% Acrylic Eggshell
 - vii. 370 Interior V/AC Eggshell
 - viii. 430 Interior V/AC Eggshell
 - ix. 300 Interior V/AC Flat



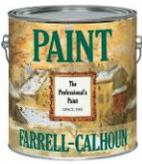
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- 9) Existing Surfaces that are water stained
 - a. De-grease substrate if needed depending on surface type
 - b. Sand substrate with a 150 to 220 grit pad and wipe clean if an enamel
 - c. Primer
 - i. 597 QD Alkyd Stain Killer (Best Primer for water stains.)
 - ii. Shellac (Best all-around but expensive!)
 - iii. 599 Alkyd Enamel Undercoater
 - iv. 697 100 % Acrylic Stain Blocker (Multiple coats may be needed.)
 - d. Topcoat -use desired topcoat

- 10) Existing Solventborne Varnished Alkyd-Urethane Trim or paneling (changing to a latex paint)
 - a. Check for wax with a commercial wax remover or an ammonia/water solution.
 - b. Remove wax completely if present (see 1e)
 - c. De-grease substrate
 - d. Sand substrate with a 150 to 220 grit pad and wipe clean
 - e. Primer – Solventborne Alkyd Primer (if solvents cannot be used, see 3c)
 - i. 599 Alkyd Enamel Undercoater
 - ii. 597 QD Alkyd Stain-Killer
 - f. Topcoat – Interior 100% Acrylic Semi-Gloss to Gloss
 - i. 3000 Interior 100% Acrylic High Gloss
 - ii. 3300 Interior 100% Acrylic Semi-Gloss

- 11) Existing Solventborne Varnished Alkyd-Urethane Trim or paneling that is to be re-varnished with a Solventborne Varnish
 - a. Check for wax with a commercial wax remover or an ammonia/water solution.
 - b. Remove wax completely if present
 - c. De-grease substrate
 - d. Carefully Sand substrate in the same direction on the wood grain with a 220 grit pad and wipe clean
 - e. Re-stain any sanded edge to match existing stain
 - f. Topcoat –
 - i. Woodkraft Solventborne Polyurethane Varnish 1120 line
 - ii. Woodkraft Solventborne Sanding Sealer 1100 line



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- 12) Existing Waterborne Urethane Trim or paneling that is to be painted with a waterborne paint
 - a. Check for wax with a commercial wax remover or an ammonia/water solution.
 - b. Remove wax completely if present
 - c. De-grease substrate with a commercial degreaser or Denatured alcohol.
 - d. Sand substrate with a 150 to 220 grit pad and wipe clean
 - e. Primer – Waterborne 100 % Acrylic (if needed by adhesion test)
 - i. 699 100 % Acrylic Undercoater
 - ii. 697 100 % Acrylic Bonding Primer
 - f. Topcoat -Quality Interior Waterborne Satin to Gloss
 - i. 3000 Interior 100% Acrylic High Gloss
 - ii. 3300 Ultra Low VOC Interior 100% Acrylic Semi-Gloss

- 13) Existing Waterborne Varnished Alkyd-Urethane Trim or paneling that is to be re-varnished with a waterborne varnish
 - a. Check for wax with a commercial wax remover or an ammonia/water solution.
 - b. Remove wax completely if present
 - c. De-grease substrate with a commercial degreaser or Denatured alcohol.
 - d. Carefully Sand substrate in the same direction on the wood grain with a 220 grit pad and wipe clean
 - e. Re-stain any sanded edge to match existing stain- allow stain to completely dry prior to topcoating
 - f. Topcoat –
 - i. Woodkraft Waterborne Polyurethane Varnish 1190 line
 - ii. Woodkraft Waterborne Spar Varnish 1160 line